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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,625	03/15/2001	Katsuto Tanaka	15162/03130	5443

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EXAMINER

NGUYEN, MICHELLE P

ART UNIT PAPER NUMBER

2851

DATE MAILED: 10/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,625

Applicant(s)

TANAKA, KATSUTO

Examiner

Michelle Nguyen

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group (a) (First embodiment shown in Figs. 1A, 1B) in Paper No. 8 is acknowledged. The traversal is on the ground(s) that claim 13 is generic to the following groups:

- (a) First embodiment shown in Figs. 1A, 1B
- (b) Second embodiment shown in Figs. 2A, 2B; and
- (c) Third embodiment shown in Figs. 3A, 3B

This is not found persuasive because claim 13 recites the limitation "wherein the objective optical system comprises three lens units" in line 8. The objective optical system of the first embodiment is shown having three lens units. However, the objective optical systems of the second and third embodiments are each shown having four lens units. The requirement is still deemed proper and is therefore made FINAL.

2. Claims 5-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Claim Objections

3. Claim 13 is objected to.

Claim 13 recites the limitation "wherein the objective optical system comprises three lens units" in line 8. Accordingly, the limitation "at least two succeeding lens units" as recited in line 11 should be --two succeeding lens units--. Further, the limitation "at

least two of the succeeding lens units" as recited in line 13 should be either --at least one of the succeeding lens units-- or --the two succeeding lens units--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "when zooming is performed, the second lens unit is moved and the third lens unit is kept stationary" in lines 2-3. However, claim 1 from which claim 2 depends requires the third lens unit to have a lateral magnification at both a wide-angle end and a telephoto end. It is unclear how a stationary lens can have a wide-angle end or a telephoto end.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,145 to Kanai.

With regard to claim 1, Kanai discloses a real-image variable-magnification viewfinder comprising:

- an objective optical system (objective optical system 10) having a positive optical power for forming a real image in an optical path (see Col. 3, lines 36-9, Fig. 5);

- an eyepiece optical system (eyepiece optical system 17) having a positive optical power for transmitting the real image formed by the objective optical system 10 to a pupil of an observer (see Col. 3, lines 36-9, Fig. 5); and

- an erecting optical system (roof prism 14P, pentagonal prism 16) disposed in the optical path for inverting the real image formed by the objective optical system 10 (see Col. 7, lines 8-10, Figs. 5, 10),

wherein the objective optical system 10 comprises three lens units arranged in the following order, from an object side of the objective optical system 10:

- a first lens unit (first lens group 11) (see Figs. 5, 7);

- a second lens unit (second lens group 12) having negative optical power (see Figs. 5, 7); and

- a third lens unit (third lens group 13) having a positive optical power (see Figs. 5, 7),

wherein, as zooming is performed from a wide-angle end to a telephoto end, at least one of the second lens group 12 and third lens group 13 is moved in such a way that the second lens group 12 and third lens group 13 come closer to each other (see Col. 5, lines 47-55, Fig. 5).

Kanai does not teach the following conditional formulae to be fulfilled:

$$\begin{aligned} & -0.75 < m_{2W} < -0.3; \\ & -2 < m_{2T} < -1.05; \\ & -0.75 < m_{3W} < -0.3; \\ & -2 < m_{3T} < -1.05; \text{ and} \\ & L_2 > L_3, \end{aligned}$$

where

m_{2W} represents a lateral magnification of the second lens unit at the wide-angle end;

m_{2T} represents a lateral magnification of the second lens unit at the telephoto end;

m_{3W} represents a lateral magnification of the third lens unit at the wide-angle end;

m_{3T} represents a lateral magnification of the third lens unit at the telephoto end;

L_2 represents a movement distance of the second lens unit over an entire zoom range; and

L_3 represents a movement distance of the third lens unit over the entire zoom range.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the viewfinder of Kanai such that the conditions as set forth in claim 1 are met since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller* 105 USPQ 233. Examiner notes that

Kanai does teach conditional formulae to be fulfilled, the formulae including ranges which overlap with corresponding ranges set forth in claim 1, and which are offset by two units with respect to corresponding ranges set forth in claim 1 (see Col. 2, lines 32-47).

With regard to claim 3, Kanai teaches second and third lens groups 12 and 13, respectively, as discussed above with respect to claim 1 to be moved during a zooming operation (see Col. 1, line 64 to Col. 2, line 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to move the second lens group of Kanai before moving the first lens group during a zooming operation such that the second lens group is kept stationary in a portion of a zoom range and the third lens group is moved. Applicant has not disclosed that the specific manner in which the lens groups are moved during a zooming operation solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any combination of movements of the lens groups during a zooming operation.

With regard to claim 4, Kanai discloses the viewfinder as discussed above with respect to claim 1, wherein the erecting optical system comprises two prisms (roof prism 14P, pentagonal prism 16) (see Col. 7, lines 8-10, Figs. 5, 7, 10).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,145 to Kanai as applied to claim 1 above, and further in view of U.S. Patent No. 5,028,125 to Kikuchi.

With regard to claim 2, Kanai does not teach the second lens group 12 as discussed above with respect to claim 1 to be moved and the third lens unit 13 to be

kept stationary during a zooming operation. Instead, Kanai teaches both lens groups 12, 13 to be moved during a zooming operation (see Col. 1, line 64 to Col. 2, line 4). However, Kanai also teaches the objective optical system 10 to comprise a positive, negative, positive configuration (see Fig. 5). Kikuchi discloses an objective system comprising a positive, negative, positive configuration, wherein only the second lens group having a negative power is moved during a zooming operation (see Col. 2, lines 56-62, Col. 3, lines 1-4, Fig. 1). Therefore, it would have been obvious to one having ordinary skill in the art to move only the second lens group of Kanai as taught by Kikuchi as an alternative means for performing a zooming operation.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,035,145 to Kanai in view of U.S. Patent No. 5,627,618 to Kasai et al.

With regard to claim 13, Kanai discloses a real-image variable-magnification viewfinder comprising:

- an objective optical system (objective optical system 10) having a positive optical power for forming a real image in an optical path (see Col. 3, lines 36-9, Fig. 5);

- an eyepiece optical system (eyepiece optical system 17) having a positive optical power for transmitting the real image formed by the objective optical system 10 to a pupil of an observer (see Col. 3, lines 36-9, Fig. 5); and

- an erecting optical system (roof prism 14P, pentagonal prism 16) disposed in the optical path for inverting the real image formed by the objective optical system 10 (see Col. 7, lines 8-10, Figs. 5, 10),

wherein the objective optical system 10 comprises three lens units arranged in the following order, from an object side of the objective optical system 10:

a first lens unit (first lens group 11); and

two succeeding lens units (second and third lens groups 12 and 13, respectively) (see Fig. 5),

wherein zooming is achieved by moving the second and third lens groups 12 and 13, respectively, in such a way that magnification is variable within a range extending to both sides of unity magnification (see Col. 5, lines 47-55).

Kanai does not teach the first lens group 11 to be moved to adjust dioptric power. However, Kanai does teach the objective optical system 10 to comprise a positive, negative, positive configuration (see Fig. 5). Kasai et al. teach that it is well known in the art to move the first lens unit having a positive power of an objective system of positive, negative, positive configuration for adjusting dioptric power (see Col. 2, lines 2-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the objective optical system of Kanai such that the first lens group is movable for adjusting dioptric power.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,970,266 to Takato teaches moving 1 to 3 lenses of an objective optical system for adjusting magnification.

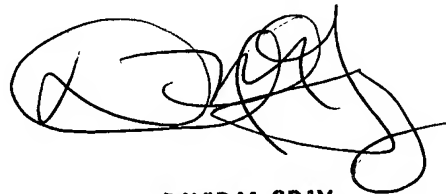
U.S. Patent No. 5,694,244 to Abe et al. teaches moving 2 of 3 lenses of an objective optical system for adjusting magnification.

U.S. Patent No. 5,376,984 to Abe teaches moving 2 of 3 lenses of an objective optical system for adjusting magnification.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Nguyen whose telephone number is 703-305-2771. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.



DAVID M. GRAY
PRIMARY EXAMINER

mpn
October 8, 2002